MRBI

Mississippi River Basin Initiative

USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

Nutrient Management Technology Enhancements

Adoption of Nutrient Management Technology Enhancements in Targeted Iowa Watersheds

Farmers in designated subwatersheds within the North Raccoon River Watershed and the Boone River Watershed have the opportunity to receive **higher payment rates** on nutrient management practices that avoid, control and trap nutrient runoff, and maintain agricultural productivity.

The project is part of the Mississippi River Basin Healthy Watersheds Initiative (MRBI). The goal of MRBI is to reduce nutrient loading in the Mississippi River Basin, which contributes to both local water quality problems and the hypoxic zone in the Gulf of Mexico.

Surface and subsurface nitrate losses from the North Raccoon and Boone River Watersheds drain to the City of Des Moines' municipal drinking watersupply, and both routinely exceed water quality standards for nitrate-nitrogen.

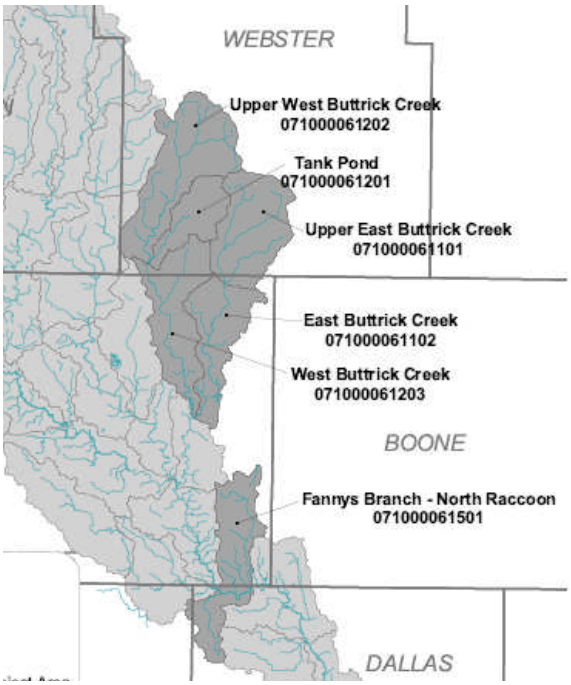
The project provides incentives and technical assistance to farmers in these watersheds to integrate nitrogen stabilizers into both fall and spring farming practices, and stimulate the use of nutrient management planning to meet yield goals while reducing nitrogen losses.

This MRBI project will be offered now through fiscal year 2014. Producers can apply for assistance for up to three years. To enroll, applicants must meet the minimum eligibility requirements of the Environmental Quality Incentives Program (EQIP).

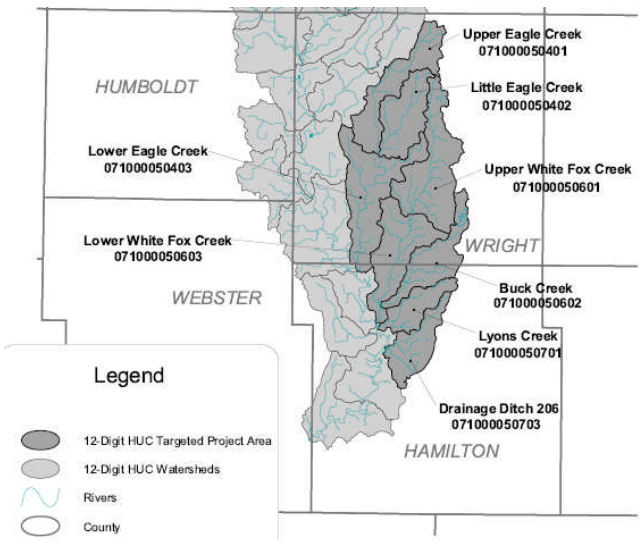
Nutrient Management Intensity Options and payment rates are listed on the next page.

For more information about the project, contact Agriculture's Clean Water Alliance at (515) 334-1051 or your local NRCS office.

North Raccoon River MRBI Application Area



Boone River MRBI Application Area



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Project Partners:
Agriculture's Clean Water Alliance
The Nature Conservancy
Farmers Cooperative Company (Ames)
West Central (Ralston)
Heartland Co-op (West Des Moines)
Gold Eagle Cooperative (Goldfield)
New Cooperative (Ft. Dodge)
Van Diest Supply (Webster City)
USDA-ARS National Laboratory for Agriculture and the Environment

Adoption of Nutrient Management Technology Enhancements in Targeted Iowa Watersheds
Nutrient Management Intensity Options

Description	Payment
Implementing an **enhanced level of nutrient management without manure plus 2 enhancement options** (enhancement options are listed on the table at right) on cropland, pasture, hayland and any other land uses where plant nutrients are applied. **Utilize a slow release N such as a polymer coated urea (ex. ESN), nitrification inhibitors, and/or urease inhibitors for the primary source of fall applied N.** The use of slow release N, nitrification inhibitors or urease inhibitors is not required for nitrogen included in sources of phosphorus such as MAP and DAP. **No fertilizer will be applied on frozen or snow covered ground.**	$30.66 - $36.79
Implementing an **enhanced level of nutrient management with manure application plus 2 enhancement options** (enhancement options are listed on the table at right) on cropland, pasture, hayland and any other land uses where plant nutrients are applied. **Utilize a slow release N such as a polymer coated urea (ex. ESN), nitrification inhibitors, and/or urease inhibitors for the primary source of fall applied N.** The use of slow release N, nitrification inhibitors or urease inhibitors is not required for nitrogen included in sources of phosphorus such as MAP and DAP. **No fertilizer will be applied on frozen or snow covered ground.**	$37.82 - $45.39
Implementing an **enhanced level of nutrient management plus 2 enhancement options** (enhancement options are listed on the table at right) **including adaptive nutrient management concepts and activities** on cropland, pasture, hayland and any other land uses where plant nutrients are applied. **Utilize a slow release N such as a polymer coated urea (ex. ESN), nitrification inhibitors, and/or urease inhibitors for fall applied N.** The use of slow release N, nitrification inhibitors or urease inhibitors is not required for nitrogen included in sources of phosphorus such as MAP and DAP. **No fertilizer will be applied on frozen or snow covered ground.** In addition to the above items, an adaptive Nutrient Management strategy is implemented to evaluate and adjust nutrient application and utilization strategies over time. This scenario describes the implementation of an advanced precision nutrient management system on cropland. The planned NM system will meet the current 590 standard. Payment for implementation is to defray the costs of soil testing, analysis, consultant services, skilled labor and specialized nutrient application that provide nutrient proper recommendations based on LGU recommendations or crop removal rates and an associated nutrient budget, recordkeeping, and monitoring on a precision level that includes split applications, NDVI sensing, and aerial imaging. Records are kept demonstrating implementation of the 4 R's of the NM plan. In season N application is determined by in field testing that would include late spring nitrate tests, tissue testing, a leaf meter, or an aerial assessment or infrared sensor system.	$50.01 - $60.02

Enhanced Level Options

For enhanced levels, apply 2 from the list below:

1. Manure Applied at P Based rates when PI is low or very low.
2. a. Variable rate manure or commercial fertilizer within field based on soil tests.

   OR
2. b. Use of Site Specific Nutrient Applications using GPS/satellites and variable rate (accutract) nutrient applications.
3. Planned use of Late Spring Nitrate Test to evaluate N mgmt according to ISU PM1714 and document how decision was made.
4. Utilize legumes other than soybeans in rotation.
5. Utilize fall stalk tests to evaluate Nitrogen and make adjustments as needed (PM 1584). (Required for adaptive management scenario)
6. Utilize in-season plant tissue tests to evaluate Nitrogen and make adjustments as needed according to ISU PM 2026.
7. N applied after July 15 on pasture or no N on Pasture.
8. When applying >60# N on pasture that has <30% legume, use split application.
9. Majority (>50%) of N is applied in the spring or summer.
10. Inject manure with low disturbance, minimum of 30 inch spacing without covering disks. Nutrients are transported to surface waters through runoff or wind erosion in quantities that degrade water quality and limit use of intended purposes. Inefficient energy utilization occurs due to traditional methods and forms of fertilizer applications.

Limitations: The producer can participate at the enhanced level of Nutrient Management while still applying fall N. Nitrogen stabilizers must be used in the primary nitrogen application, regardless of the form or timing of the application. All categories with enhancements require the following: 1) If associated with irrigated land, must also apply 449 Irrigation Water Management, 2) If associated with drained land, must also apply 554 Drainage Water Management if feasible. Nutrient Management is capped (lifetime) at $24,000/participant.

Maintenance: Practice must be maintained for a lifespan of 1 year.